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Electromagnetically actuated fuel atomising and metering valve for heat engine fuel supply - has movable shutter controlling fuel flow, welded tubular armature which is attached by core

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Number of Countries: 006 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 536773	A1	19930414	EP 92117295	A	19921009	199315 B
US 5348232	A	19940920	US 92960536	A	19921013	199437
EP 536773	B1	19950628	EP 92117295	A	19921009	199530
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IT 1250845	B	19950421	IT 91TO771	A	19911011	199545
ES 2076645	T3	19951101	EP 92117295	A	19921009	199550

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Cited Patents: DE 4018256; FR 2632019; FR 2657124; FR 2667124

Patent Details:

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Abstract (Basic): EP 536773 A

An electromagnet (2), a cone (3) and an injection nozzle (6) are housed in a metal body (1). The nozzle is provided with at least one fuel injection orifice (9) the passage through which is controlled by a shutter (15) fixed to an armature.

The shutter comprises a disc (10) defined by a cylindrical outer lateral surface (17) with the same diameter as the armature outer surface, and by a pair of flat circular surfaces (22,23) and is connected to the armature by welding between disc upper and armature lower circular edges.

ADVANTAGE - Improved valve seal, and efficiency.

Dwg.1/6

Abstract (Equivalent): EP 536773 B

An electromagnetically actuated fuel atomising and metering valve for a heat engine fuel supply device, substantially comprising a metal body (1) in which is housed by annular electromagnet (2) and a core (3) disposed within the electromagnet, an injection nozzle (6) which is provided with at least one fuel injection orifice (9) and which is fixed to the said body, and a shutter member (15) movable between a first position in which it closes the fuel passage through the said injection orifice and a second position in which it leaves this passage

open, the said shutter member being fixed to a tubular armature (16) which can be attracted by the said core (3) and being provided with a cylindrical outer lateral surface (17) adapted to slide on a corresponding surface (18) of the bore in the said body (1), characterised by the fact that the said shutter member (15) is constituted by a disc (10) delimited by a cylindrical outer lateral surface (21) having substantially the same diameter as the said outer surface (17) of the said armature (16), and by a pair of upper and lower flat circular surfaces (22, 23), and said disc (10) being connected to the same armature (16) by laser welding (25) formed between the circular edge of the said upper surface (22) of the plate (10) and the corresponding edge of the lower surface of the armature (16), and the said disc being provided with at least one axial hole (24) passing through the disc.

(Dwg.1/6)

Abstract (Equivalent): US 5348232 A

A metal body houses an electromagnet, a core and an injection nozzle. The injection nozzle has at least one fuel injection orifice passage controlled by a movable shutter member fixed to an armature.

The shutter member controls the passage of fuel through the injection orifice and comprises a disc delimited by a cylindrical outer lateral surface which has substantially the same diameter as the outer surface of the armature. The disc is connected to the armature by laser welding between the upper circular edge of the disc and the lower circular edge of the armature.

USE - Electromagnetically actuated fuel atomising and metering valve.

Dwg.1,5/6

Title Terms: ELECTROMAGNET; ACTUATE; FUEL; ATOMISE; METER; VALVE; HEAT; ENGINE; FUEL; SUPPLY; MOVE; SHUTTER; CONTROL; FUEL; FLOW; WELD; TUBE; ARMATURE; ATTACH; CORE

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⑥④ Benannte Vertragstaaten:

DE, ES, FR, GB

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⑥④ Elektromagnetisch betätigbares Kraftstoffzerstäubungs- und Dosierventil für eine Kraftstoffansaugvorrichtung einer Brennkraftmaschine.

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DE 692 03 197 T 2